

**UNITED STATES DISTRICT COURT
EASTERN DISTRICT OF TEXAS
MARSHALL DIVISION**

HUAWEI TECHNOLOGIES CO. LTD.,

Plaintiff,

v.

T-MOBILE US, INC. and T-MOBILE USA,
INC.,

Defendants,

NOKIA SOLUTIONS AND NETWORKS
US LLC and NOKIA SOLUTIONS AND
NETWORKS OY,
TELEFONAKTIEBOLAGET LM
ERICSSON, and ERICSSON INC.,

Intervenors.

No. 2:16-cv-0057-JRG-RSP

JURY TRIAL DEMANDED

**DEFENDANTS' AND INTERVENORS' OBJECTIONS TO CLAIM
CONSTRUCTION MEMORANDUM AND ORDER**

Defendants T-Mobile US, Inc. and T-Mobile USA, Inc. (“Defendants”), Intervenor Nokia Solutions and Networks et al. and Ericsson Inc. et al. (collectively, “Intervenor”) submit the following objections pursuant to Fed. R. Civ. P. 72(a) to the Claim Construction Memorandum and Order entered on June 22, 2017 (Dkt. No. 228) (the “Order”).

I. HOSF AND HODF (’527 PATENT)

Defendants and Intervenor object to the Court’s conclusion that the “handover source function” (HOSF) and “handover destination function” (HODF) terms are limited to functions “corresponding to an access address or access technology.” (Order at 31.) The Order relies on column 14, lines 18-23 of the ’527 patent in stating that the “Court rejects Defendants’ construction because it fails to identify the HOSF and HOAF as ‘corresponding to an access address or access technology’ as stated in the specification.” (*Id.* at 32-33, 31.) Column 14, lines 18-23 of the ’527 patent states:

On the handover user side, the HOSF corresponds to an access module of the access point, or the access technology or the access means before the handover, and the HODF corresponds to another access module of the access point, or another access technology or another access means after the handover.

This language describes one embodiment of the patent. For example, the paragraph immediately before the paragraph containing column 14, lines 18-23 begins: “In the present embodiment,” (’527 patent at 13:40.) In addition, the sentence immediately before column 14, lines 18-23 also refers to “the present embodiment.” (*Id.* at 14:15-18.) This makes clear that the language upon which the Court relies relates to one embodiment of the invention, not every embodiment.

As the Defendants and Intervenor argued, the claimed “HOSF” must be a function of the first user terminal “before handover” and the “HODF” must be a function of the first user terminal “after handover.” (Defs.’ Claim Construction Br. (Dkt. No. 125) at 11-12 and Declaration of Srinivasan Seshan (Dkt. No. 125-1) (“Seshan Decl.”) at ¶¶ 49-50.) As the Court

correctly found, column 14, lines 18-23 supports the requirement of Defendants’ and Intervenor’s proposed construction that the HOSF and HODF must be the functions “before” and “after” “handover,” respectively. (Order at 31.) But this “before” and “after” requirement is repeated elsewhere in the patent, and it is also supported by the plain meaning of the claim terms, including the words “source” and “destination.” (See ’527 patent at 14:26-29, 14:18-23; Seshan Decl. at ¶ 49.) Thus, the Court’s conclusion that HOSF and HODF are limited to functions “corresponding to an access address or access technology” (Order at 31) was in error.

II. “ACQUISITION MODULE” (’261 PATENT)

The Order states that, “[f]or the term ‘acquisition module,’ Defendants have failed to rebut the presumption [that § 112 ¶ 6 does not apply] because ‘the words of the claim are understood by persons of ordinary skill in the art to have sufficiently definite meaning as the name for structure.’” (Order at 74.) Defendants and Intervenor’s demonstrated to the contrary, and showed that this claim term is subject to § 112, ¶ 6, and is indefinite.

“‘[M]odule’ is a well-known nonce word that can operate as a substitute for ‘means’ in the context of § 112, ¶ 6.” *Williamson v. Citrix Online, LLC*, 792 F.3d 1339, 1350 (Fed. Cir. 2015). The claimed “acquisition module” merely combines a function with a nonce word, and is not something that one of ordinary skill in the art would understand to connote structure nor does it belong to any known class of structures. (Declaration of David L. Lyon, Ph.D. (Dkt. No. 125-9) (“Lyon Decl.”) at ¶¶ 29-35.) The Order states that because the specification describes some of the functions performed by the “acquisition module” that it thus has “an ‘understood meaning in the art’ and thus are not subject to § 112 ¶ 6 construction.” (Order at 74-75.) None of the passages identified, however, recites structure, thus the question of whether the term “acquisition module” has an “understood meaning in the art” does not mean that it is not governed by § 112, ¶ 6. Thus, this term should be governed by § 112, ¶ 6, and the Court’s conclusion to the contrary

was error.

The '261 patent specification provides no corresponding structure for the claimed function. If an “acquisition module” is construed as hardware, the '261 patent specification does not describe any hardware (or any other structures) that could perform an “acquisition” function. (Lyon Decl. ¶¶ 35-36; *see Williamson*, 792 F.3d at 1351.) If the “acquisition module” is construed as software, the specification neither discloses a processor that executes the corresponding function nor an algorithm that accomplishes the claimed functionality. (Lyon Decl. ¶ 36; *see Aristocrat Techs. Austl. Pty Ltd. v. Int'l Game Tech.*, 521 F.3d 1328, 1333 (Fed. Cir. 2008).) Accordingly, the term is indefinite, and the conclusion by the Court to the contrary was in error.

III. THE “INFORMATION FOR DETERMINING” CLAUSES ('268 PATENT)

The Order concludes that “[i]t takes an unreasonably strained reading of the claim to suggest that [the '268 patent's specifications description of the second embodiment] equates to ‘*information for determining ... authentication vector (AV)-related keys that are deduced according to a root key of the MME,*’ as recited in claim 1.” (Order at 46.) This conclusion is erroneous, and the claim term is indefinite.

It is unclear in the '268 patent whether “information for determining” modifies *only* the “security capacities supported by the UE,” or *also* modifies “AV-related keys.” This problem is fatal to the ability of a person of ordinary skill in the art to understand the claim because these possibilities each correspond to distinct embodiments disclosed in the specification. (Lyon Decl. ¶ 43.) For example, one reading that corresponds to the first embodiment of the '268 patent requires that the mobility management context contains the AV-related keys *themselves*. ('268 patent at 4:31-36; Fig. 1 at 102, 103.) An alternative reading that corresponds to the second embodiment requires that the mobility management context contains *information for determining*

the AV-related keys. ('268 patent at 5:30-33; Fig. 2 at 202, 203.) Because the root key of the MME is the information used to determine the AV-related keys, there is nothing strained about reading the claim to cover the second embodiment, contrary to the Court's analysis. Finally, one of ordinary skill in the art would understand that the claim cannot cover both options because the. (Lyon Decl. at ¶ 41.) As a result, these terms are indefinite, and the Court's conclusion to the contrary was in error.

IV. “[DERIVING/DERIVES] A NAS PROTECTION KEY ...” ('261 PATENT)

The Order concludes that “[deriving/derives] a NAS protection key with the selected NAS security algorithm from the authentication vector-related key” of the '261 patent “is performed by the MME” and that the claim covers both direct and indirect derivation methods. Both of these conclusions are erroneous.

Contrary to the Court's analysis, the construction offered by the Defendants and Intervenor is consistent with the intrinsic evidence that shows the “deriving” step being performed by a UE. ('261 patent at 5:54-65; Fig. 1. at Step 105.) Moreover, the Court's conclusion that the claims are “drafted from the perspective of an MME” (Order at 62) is incompatible with its conclusion that method claim 1 includes a “transmitting” step performed by an SGSN. (*Id.* at 59.) Thus, when the patentee removed “by the MME” in amending the claims during prosecution, the public was entitled to rely on this amendment and to conclude that the “deriving” step was being performed by the UE, not the MME. ('261 Patent Prosecution History, May 18, 2015 Amendment and Response at 2.)

In addition, the specification is clear that there are two different ways to calculate the NAS Protection Keys: a direct derivation technique and an indirect derivation technique. ('261 patent at 6:55-59.) The claims of the '261 patent claim the direct derivation technique because they expressly omit the intermediate root key in the deriving step of the claims. ('261 patent at

claims 1, 9, 17.) This is in contrast to claims in related patents, such as claim 1 of U.S. Patent No. 8,812,848, where the indirect derivation technique was expressly claimed. The Court's conclusion that the claims of the '268 patent do not require direct derivation was thus in error, and these claim terms should be construed as deriving a NAS protection key by the UE using the authentication vector-related key CK and/or IK as an input to the selected NAS security algorithm.

V. CONCLUSION

In view of the foregoing, the Court should sustain the objections of Defendants and Intervenor and adopt the constructions proposed by Defendants and Intervenor for HOSF, HODF, "information for determining ...," "acquisition module," and "[deriving/derives] a NAS protection key with the selected NAS security algorithm from the authentication vector-related key."

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/s/ John D. Haynes

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CERTIFICATE OF SERVICE

The undersigned hereby certifies that all counsel of record who are deemed to have consented to electronic service are being served with this document via the Court's CM/ECF system pursuant to Local Rule CV-5(a) on July 6, 2017. All other counsel will be served by U.S. first-class mail.

/s/ E. Glenn Thames, Jr.

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